fanning its wings, while by the strong process of circulation a rapid injection of the blood into the wings and other organs takes place, accompanied by their expansion to normal proportions, in which they gradually attain to more or less rigidity. Hardly anything in the range of insect life is more interesting than this rapid development of the butterfly after its first emergence from the chrysalis. The body is robbed of its liquid contents in a large degree; the abdomen is shortened up; the chitinous rings which compose its external skeleton become set and hardened; the wings are expanded, and then the moment arrives when, on airy pinions, the creature that has lived a worm-like life for weeks and months, or which has been apparently sleeping the sleep of death in its cerements, soars aloft in the air, the companion of the sunlight and the breezes.

ANATOMY OF BUTTERFLIES

The body of the butterfly consists of three parts—the head, the thorax, and the abdomen.

The Head.—The head is globular, its breadth generally exceeding its length. The top is called the *vertex;* the anterior portion, corresponding in location to the human face, is called *the front* Upon the sides of the head are situated the large *compound eyes,* between which are the *antennæ,* or " feelers," as they are sometimes called. Above the mouth is a smooth horny *dibles,*

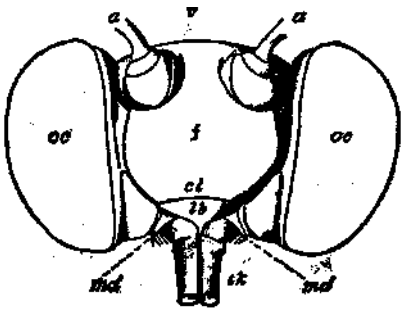

Fig. 29.—Head of milkweed butterfly, stripped of scales and greatly magnified (after Burgess): *v*, vertex; *f*, front; *cl*, clypeus; *lb*, labrum, or upper lip; *md*, mandibles; *a*, antennæ; *oc*, eyes; *tk*, spiral tongue,

plate, the *clypeus.* The *labrum,* or upper lip, is quite small On both sides of the mouth are rudimentary *mandibulæ* or proboscis., which are microscopic objects. The true suctorial apparatus is formed by the *maxillæ,* which are produced in the form of semi-cylindrical tubes, which, being brought together and interlocking, form a com-